Fig. 1

NL1:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180

M A D T I F G S G N D Q 12

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC 240

W V C P N D R Q L A L R A K L Q T G W S 32

GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG 300

V H T Y Q T E K Q R R K Q H L S P A E V 52

GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA 360

E A I L Q V I Q R A E R L D V L E Q Q R 72

ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG 420

I G R L V E R L E T M R R N V M G N G L 92

TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC 480

S Q C L L C G E V L G F L G S S S V F C 112

AAAGACTGCAGGAAGGTCTGGAAGAGGTCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAG 540

K D C R K V W K R S G A W F Y K G L P K 132

TATATCTTGCCCCTGAAGACCCCTGGCCGAGCTGATGAGCCCCAGTTCCGACCTTGGCCC 600

Y I L P L K T P G R A D E P Q F R P W P 152

ACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCTGAGACCAGCCGCATCTACACGTGGGCC 660

T E P A E R E P R S S E T S R I Y T W A 172

CGAGGAAGAGTGGTTTCCAGTGACAGTGACAGTGACTCGGATCTTAGCTCCTCCAGCCTA 720

R G R V V S S D S D S D S D L S S S S L 192

GAGGACAGACTCCCATCCACTGGGGTCAGGGACCGGAAAGGCGACAAACCCTGGAAGGAG 780

E D R L P S T G V R D R K G D K P W K E 212

TCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGGTTCACCCAACCCGCGGGCCACCTCTTT 840

S G G S V E A P R M G F T Q P A G H L F 232

GGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACGGGCACAGGCTCTGCTGACCCGCCAGGG 900

G L Q S S L A S G E T G T G S A D P P G 252

GGAGGGACAGGCTCTGCTGACCCGCCAGGGGGACCCCGCCCCGGGCTGACCCGAAGGGCC 960

G G T G S A D P P G G P R P G L T R R A 272

CCGGTAAAAGACACACCTGGACGAGCCCCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCC 1020

P V K D T P G R A P A A D A A P A G P S 292

AGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAACAGACTTCCCTGTGGAGGATTCCTGCC 1080

S C L G * 296

AGACCCTGCCCGGCTCCTCCCTGACCGGTCCTTGTGCCCTCACCAGACACCCTGTTGGCC 1140

ATGACTCAACAAACCAGTGTTGGGAGCCGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCAC 1200

CCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCCACCCCCTCCAACCACTGCCCTCAGCCC 1260

CCGACCTTATTTATTACCCTCCCCTCCCACACCCCCAATCTACCTGGTGATGATTTTAAG 1320

TTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTTCCCACATGCAGTGTCAGAGGGGCCGCC 1380

CGGTGGGGCTATCTCCGTTGCTATATTAATGGCAAGACTAAATGAAACCTAGGGCACGGC 1440

CTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAG 1500

ACTCACCCACCCTCTCCCTCTCCCTTCAGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCC 1560

ATGGGCTGGCCCAGGACCGCGGGTGAAACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTA 1620

TGTTTGTTTGTTTTTGACACAGTCTCGCTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGA 1680

TCGCGGCTCACTGCAACCTCCACCTCCCGGGCTCAAGCGATTCTCTCACCTCAGCCTCCT 1740

GAGTAGGTGGGATTACAGATGCCCGCCACCACACCCAGTTAATTTTTGTATTTTTAGAAG 1800

AGATGGGGTTTCTCCATGTTGGCCAGGCTGGTCTTGAACTCCTGGTCTCAAGTGATCCGC 1860

CCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGCACCCAATCCTATT 1920

AGGTTTCTTTGAATCCCCTCATGGCCTGCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGA 1980

GGAGCTGGGAAGCTCTGGTGGATGCTATGAACTCACTTGCTGAAGAGCAGCGTTCAGGTG 2040

CATCCCCAGCCAGGGCACGTGGCTCCCTCAGCCATGAATTCACTTCTCTTCAGGAGGTTT 2100

GGCTTGGCATGAAAATACTTCATTCAGAGTATGGGCAAATGCTTCTGGAAAACCCTTCCC 2160

TGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTGATCACACCCTCCCATCCTTCCTGCCTC 2220

CTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCT 2280

GGGCCCCCACCATTCACTTTTTGTCCTTGCTGCTGGCAAACAGTAAAGAAACTCACTTTC 2340

CCTGTGGCACGTTATGCTTCAGAATTAAAACAATGAAGATTAAAA 2385

Fig. 2

CL1:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180

M A D T I F G S G N D Q 12

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC 240

W V C P N D R Q L A L R A K L Q T G W S 32

GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG 300

V H T Y Q T E K Q R R K Q H L S P A E V 52

GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA 360

E A I L Q V I Q R A E R L D V L E Q Q R 72

ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG 420

I G R L V E R L E T M R R N V M G N G L 92

TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC 480

S Q C L L C G E V L G F L G S S S V F C 112

AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG 540

K D C R K K V C T K C G I E A S P G Q K 132

CGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTCGGGG 600

R P L W L C K I C S E Q R E V W K R S G 152

GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGCCGAGCT 660

A W F Y K G L P K Y I L P L K T P G R A 172

GATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT 720

D D P H F R P L P T E P A E R E P R S S 192

GAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTGGTTTCCAGTGACAGTGACAGT 780

E T S R I Y T W A R G R V V S S D S D S 212

GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC 840

D S D L S S S S L E D R L P S T G V R D 232

CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG 900

R K G D K P W K E S G G S V E A P R M G 252

TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG 960

F T Q P A G H L F G L Q S S L A S G E T 272

GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA 1020

G T G S A D P P G G G T G S A D P P G G 292

CCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCCCCCGCT 1080

P R P G L T R R A P V K D T P G R A P A 312

GCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA 1140

A D A A P A G P S S C L G * 325

CAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT 1200

GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGTCTG 1260

CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC 1320

ACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCCCACACC 1380

CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTT 1440

CCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC 1500

AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAG 1560

CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT 1620

GGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAAACCTGG 1680

GTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCGCTTTGT 1740

TGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT 1800

CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA 1860

CCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC 1920

TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG 1980

GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG 2040

TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT 2100

CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC 2160

ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAGAGTATG 2220

GGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG 2280

ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG 2340

GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCTTGCTGC 2400

TGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTAAAACAA 2460

TGAAGATTAAAA 2472

Fig.3

CL2:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT 240

GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC 300

TGGTCGGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG 360

GAGGTGGAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG 420

CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC 480

M R R N V M G N 8

GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG 540

G L S Q C L L C G E V L G F L G S S S V 28

TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC 600

F C K D C R K K V C T K C G I E A S P G 48

CAGAAGCGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG 660

Q K R P L W L C K I C S E Q R E V W K R 68

TCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGC 720

S G A W F Y K G L P K Y I L P L K T P G 88

CGAGCTGATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGA 780

R A D D P H F R P L P T E P A E R E P R 108

AGCTCTGAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTGGTTTCCAGTGACAGT 840

S S E T S R I Y T W A R G R V V S S D S 128

GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC 900

D S D S D L S S S S L E D R L P S T G V 148

AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG 960

R D R K G D K P W K E S G G S V E A P R 168

ATGGGGTTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT 1020

M G F T Q P A G H L F G L Q S S L A S G 188

GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCA 1080

E T G T G S A D P P G G G T G S A D P P 208

GGGGGACCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCC 1140

G G P R P G L T R R A P V K D T P G R A 228

CCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC 1200

P A A D A A P A G P S S C L G * 243

CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG 1260

GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGC 1320

CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA 1380

TCCGCCACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCC 1440

CACACCCCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGG 1500

GGGTTTCCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATT 1560

AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGA 1620

GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC 1680

AGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAA 1740

ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTTGACACAGTCTCG 1800

CTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC 1860

CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC 1920

ACCACACCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG 1980

CTGGTCTTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA 2040

TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT 2100

GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA 2160

TGAACTCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2220

TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG 2280

AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2340

TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC 2400

TGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCT 2460

TGCTGCTGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTA 2520

AAACAATGAAGATTAAAA 2538

Fig. 4

CL3:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180

M A D T I F G S G N D Q 12

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC 240

W V C P N D R Q L A L R A K L Q T G W S 32

GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG 300

V H T Y Q T E K Q R R K Q H L S P A E V 52

GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA 360

E A I L Q V I Q R A E R L D V L E Q Q R 72

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ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG   420
  I   G   R   L   V   E   R   L   E   T   M   R   R   N   V   M   G   N   G   L    92
TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC   480
  S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V   F   C   112
AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG   540
  K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G   Q   K   132
CGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTCGGGG   600
  R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R   S   G   152
GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGCCGAGCT   660
  A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G   R   A   172
GATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT   720
  D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R   S   S   192
GAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTCGTAGGAAGAAAGTGCTGATCC   780
  E   T   S   R   I   Y   T   W   A   R   G   R   V   V   G   R   K   C   *       210
ACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGGAGACGA   840
AAGGCCGCGTGTTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGTGACAGT   900
GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC   960
CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG  1020
TTCACCCAACCCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG  1080
GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA  1140
CCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCCCCCGCT  1200
GCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA  1260
CAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT  1320
GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGTCTG  1380
CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC  1440
ACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCCCACACC  1500
CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTT  1560
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CCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC 1620

AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAG 1680

CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT 1740

GGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAAACCTGG 1800

GTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTTGACACAGTCTCGCTTTGT 1860

TGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT 1920

CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA 1980

CCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC 2040

TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG 2100

GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG 2160

TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT 2220

CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC 2280

ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAGAGTATG 2340

GGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAACGTGTGTGTGTGTCGGTG 2400

ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG 2460

GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCTTGCTGC 2520

TGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTAAAACAA 2580

TGAAGATTAAAA 2592

Fig.5

CL4:

GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC 60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA 120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG 180

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT 240

GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC 300

TGGTCCGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG 360

GAGGTGGAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG 420

CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC 480

M R R N V M G N 8

GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG 540

G L S Q C L L C G E V L G F L G S S S V 28

TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC 600

F C K D C R K K V C T K C G I E A S P G 48

CAGAAGCGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG 660

Q K R P L W L C K I C S E Q R E V W K R 68

TCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGC 720

S G A W F Y K G L P K Y I L P L K T P G 88

CGAGCTGATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGA 780

R A D D P H F R P L P T E P A E R E P R 108

AGCTCTGAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTCGTAGGAAGAAAGTGC 840

S S E T S R I Y T W A R G R V V G R K C 128

TGATCCACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGG 900

AGACGAAAGGCCGCGTGTTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGT 960

GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC 1020

AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG 1080

ATGGGGTTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT 1140

GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGGGGGACAGGCTCTGCTGACCCGCCA 1200

GGGGGACCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCC 1260

CCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC 1320

CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG 1380

GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGC 1440

CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA 1500

TCCGCCACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCC 1560

CACACCCCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGG 1620

GGGTTTCCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATT 1680

AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGA 1740

GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC 1800

AGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAA 1860

ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCG 1920

CTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC 1980

CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC 2040

ACCACACCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG 2100

CTGGTCTTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA 2160

TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT 2220

GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA 2280

TGAACTCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2340

TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG 2400

AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2460

TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC 2520

TGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCT 2580

TGCTGCTGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTA 2640

AAACAATGAAGATTAAAA 2658

Fig. 6

```
           1             15 16           30 31           45 46           60 61           75 76           90
1 NOC2  --------------- --------------- --------------- --------------- --------------- ---------------     0
2 NL1   GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT    90
3 LC1   GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT    90
4 LC2   GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT    90
5 LC3   GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT    90
6 LC4   GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT    90

          91            105 106         120 121         135 136         150 151         165 166         180
1 NOC2  --------------- ----------TCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG    65
2 NL1   GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG   180
3 LC1   GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG   180
4 LC2   GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG   180
5 LC3   GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG   180
6 LC4   GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG   180
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	181	195 196	210 211	225 226	240 241	255 256	270	
1 NOC2	TGGGTTTGCCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC--	---------------	---------------	---------------		108
2 NL1	TGGGTTTGCCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC--	---------------	---------------	---------------		223
3 LC1	TGGGTTTGCCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC--	---------------	---------------	---------------		223
4 LC2	TGGGTTTGCCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGCAC	TGACTGCACAGCAGT	GAACAGGACCAACAC	AGTCCCTGGTCTTAA		270
5 LC3	TGGGTTTGCCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGC--	---------------	---------------	---------------		223
6 LC4	TGGGTTTGCCCCAAT	GACCGGCAGCTTGCC	CTTCGAGCCAAGCAC	TGACTGCACAGCAGT	GAACAGGACCAACAC	AGTCCCTGGTCTTAA		270

	271	285 286	300 301	315 316	330 331	345 346	360	
1 NOC2	---------------	----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		179
2 NL1	---------------	----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		294
3 LC1	---------------	----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		294
4 LC2	AGCACAGGTGGGCAG	AGGCTGCAGACGGGC	TGGTCGGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		360
5 LC3	---------------	----TGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		294
6 LC4	AGCACAGGTGGGCAG	AGGCTGCAGACGGGC	TGGTCCGTGCACACC	TACCAGACGGAGAAG	CAGAGGAGGAAGCAG	CACCTCAGCCCGGCG		360

	361	375 376	390 391	405 406	420 421	435 436	450	
1 NOC2	GAGGTGGAGGCCATC	CTGCAGGTCATCCAG	AGGGCAGAGCGGCTC	GACGTCCTGGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG		269
2 NL1	GAGGTGGAGGCCATC	CTGCAGGTCATCCAG	AGGGCAGAGCGGCTC	GACGTCCTGGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG		384

3	LC1	GAGGTGGAGGCCATC	CTGCAGGTCATCCAG	AGGGCAGAGCGGCTC	GACGTCCTGGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG	384
4	LC2	GAGGTGGAGGCCATC	CTGCAGGTCATCCAG	AGGGCAGAGCGGCTC	GACGTCCTGGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG	450
5	LC3	GAGGTGGAGGCCATC	CTGCAGGTCATCCAG	AGGGCAGAGCGGCTC	GACGTCCTGGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG	384
6	LC4	GAGGTGGAGGCCATC	CTGCAGGTCATCCAG	AGGGCAGAGCGGCTC	GACGTCCTGGAGCAG	CAGAGAATCGGGCGG	CTGGTGGAGCGGCTG	450

		451	465 466	480 481	495 496	510 511	525 526	540
1	NOC2	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCAGTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	359
2	NL1	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCAGTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	474
3	LC1	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCAGTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	474
4	LC2	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCAGTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	540
5	LC3	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCAGTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	474
6	LC4	GAGACCATGAGGCGG	AATGTGATGGGGAAC	GGCCTGTCCCAGTGT	CTGCTCTGCGGGGAG	GTGCTGGGCTTCCTG	GGCAGCTCGTCGGTG	540

		541	555 556	570 571	585 586	600 601	615 616	630
1	NOC2	TTCTGCAAAGACTGC	AGGAAGAAAGTCTGC	ACCAAATGTGGGATC	GAGGCCTCCCCTGGC	CAGAAGCGGCCCCTG	TGGCTGTGTAAGATC	449
2	NL1	TTCTGCAAAGACTGC	AGGAAG---------	---------------	---------------	---------------	---------------	495
3	LC1	TTCTGCAAAGACTGC	AGGAAGAAAGTCTGC	ACCAAATGTGGGATC	GAGGCCTCCCCTGGC	CAGAAGCGGCCCCTG	TGGCTGTGTAAGATC	564
4	LC2	TTCTGCAAAGACTGC	AGGAAGAAAGTCTGC	ACCAAATGTGGGATC	GAGGCCTCCCCTGGC	CAGAAGCGGCCCCTG	TGGCTGTGTAAGATC	630
5	LC3	TTCTGCAAAGACTGC	AGGAAGAAAGTCTGC	ACCAAATGTGGGATC	GAGGCCTCCCCTGGC	CAGAAGCGGCCCCTG	TGGCTGTGTAAGATC	564
6	LC4	TTCTGCAAAGACTGC	AGGAAGAAAGTCTGC	ACCAAATGTGGGATC	GAGGCCTCCCCTGGC	CAGAAGCGGCCCCTG	TGGCTGTGTAAGATC	630

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        631           645 646           660 661           675 676           690 691           705 706           720
1 NOC2  TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC   539
2 NL1   --------------- ---GTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC   567
3 LC1   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC   654
4 LC2   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC   720
5 LC3   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC   [illegible]54
6 LC4   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC   720

        721           735 736           750 751           765 766           780 781           795 796           810
1 NOC2  CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG   629
2 NL1   CGAGCTGATGAGCCC CAGTTCCGACCTTGG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG   657
3 LC1   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG   744
4 LC2   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG   810
5 LC3   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG   744
6 LC4   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG   [illegible]10

        811           825 826           840 841           855 856           870 871           885 886           900
1 NOC2  GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------   643
2 NL1   GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------   671
3 LC1   GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------   758
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4 LC2   GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------   824
5 LC3   GCCCGAGGAAGAGTC GTAGGAAGAAAGTGC TGATCCACGCTGCAG CCTGGATGAGTCCTT GAAAACACCATGCGA AGTGGAAGAAGCCGG   834
6 LC4   GCCCGAGGAAGAGTC GTAGGAAGAAAGTGC TGATCCACGCTGCAG CCTGGATGAGTCCTT GAAAACACCATGCGA AGTGGAAGAAGCCGG   900

        901         915 916         930 931         945 946         960 961         975 976         990
1 NOC2  --------------- --------------- --------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC   689
2 NL1   --------------- --------------- --------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC   717
3 LC1   --------------- --------------- --------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC   804
4 LC2   --------------- --------------- --------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC   870
5 LC3   AGACGAAAGGCCGCG TGTTGTGTGATCTCA TCTATATGAGCAGTG GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC   924
6 LC4   AGACGAAAGGCCGCG TGTTGTGTGATCTCA TCTATATGAGCAGTG GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC   990

        991        1005 1006       1020 1021       1035 1036       1050 1051       1065 1066       1080
1 NOC2  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   779
2 NL1   CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   807
3 LC1   CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   894
4 LC2   CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   960
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5 LC3  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   1014
6 LC4  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   1080

       1081        1095 1096       1110 1111       1125 1126       1140 1141       1155 1156       1170
1 NOC2 ATGGGGTTCACCCAC CCGCCGGGCCACCTC TCTGGGTGCCAGAGC AGCCTGGCCAGTGGT GAGACGGG------- ---------------   847
2 NL1  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   897
3 LC1  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   [illegible]84
4 LC2  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   1050
5 LC3  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   1104
6 LC4  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   1170

       1171        1185 1186       1200 1201       1215 1216       1230 1231       1245 1246       1260
1 NOC2 ---------GACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   929
2 NL1  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   987
3 LC1  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   [illegible]4
4 LC2  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   1140
5 LC3  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   1194
6 LC4  GGGGGGGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   1260
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             1261           1275 1276          1290 1291          1305 1306          1320 1321          1335 1336          1350
1 NOC2  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1019
2 NL1   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1077
3 LC1   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1164
4 LC2   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1230
5 LC3   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  [illegible]4
6 LC4   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1350

             1351           1365 1366          1380 1381          1395 1396          1410 1411          1425 1426          1440
1 NOC2  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1109
2 NL1   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1167
3 LC1   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1254
4 LC2   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1320
5 LC3   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1374
6 LC4   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  [illegible]0

             1441           1455 1456          1470 1471          1485 1486          1500 1501          1515 1516          1530
1 NOC2  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1199
2 NL1   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1257
3 LC1   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1344
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4	LC2	CGTCTGCCTCCCCAG	CTCAGTGCCTTTCTG	CACCCCTTCTCTCCT	GGGGAGCTGTCTGCA	TCCGCCACCCCCTCC	AACCACTGCCCTCAG	1410
5	LC3	CGTCTGCCTCCCCAG	CTCAGTGCCTTTCTG	CACCCCTTCTCTCCT	GGGGAGCTGTCTGCA	TCCGCCACCCCCTCC	AACCACTGCCCTCAG	1464
6	LC4	CGTCTGCCTCCCCAG	CTCAGTGCCTTTCTG	CACCCCTTCTCTCCT	GGGGAGCTGTCTGCA	TCCGCCACCCCCTCC	AACCACTGCCCTCAG	1530

		1531 1545	1546 1560	1561 1575	1576 1590	1591 1605	1606 1620	
1	NOC2	CCCCCGACCTTATTT	ATTACCCTCCCCTCC	CACACCCCCAATCTA	CCTGGTGATGATTTT	AAGTTTGCGCGTGTC	TTGGGTTGGGCTGGG	[illegible]89
2	NL1	CCCCCGACCTTATTT	ATTACCCTCCCCTCC	CACACCCCCAATCTA	CCTGGTGATGATTTT	AAGTTTGCGCGTGTC	TTGGGTTGGGCTGGG	1347
3	LC1	CCCCCGACCTTATTT	ATTACCCTCCCCTCC	CACACCCCCAATCTA	CCTGGTGATGATTTT	AAGTTTGCGCGTGTC	TTGGGTTGGGCTGGG	1434
4	LC2	CCCCCGACCTTATTT	ATTACCCTCCCCTCC	CACACCCCCAATCTA	CCTGGTGATGATTTT	AAGTTTGCGCGTGTC	TTGGGTTGGGCTGGG	1500
5	LC3	CCCCCGACCTTATTT	ATTACCCTCCCCTCC	CACACCCCCAATCTA	CCTGGTGATGATTTT	AAGTTTGCGCGTGTC	TTGGGTTGGGCTGGG	1554
6	LC4	CCCCCGACCTTATTT	ATTACCCTCCCCTCC	CACACCCCCAATCTA	CCTGGTGATGATTTT	AAGTTTGCGCGTGTC	TTGGGTTGGGCTGGG	1620

		1621 1635	1636 1650	1651 1665	1666 1680	1681 1695	1696 1710	
1	NOC2	GGGTTTCCCACATGC	AGTGTCAGAGGGGCC	GCCCGGTGGGGCTAT	CTCCGTTGCTATATT	AATGGCAAGACTAAA	TGAAACCTAGGGCAC	1379
2	NL1	GGGTTTCCCACATGC	AGTGTCAGAGGGGCC	GCCCGGTGGGGCTAT	CTCCGTTGCTATATT	AATGGCAAGACTAAA	TGAAACCTAGGGCAC	[illegible]37
3	LC1	GGGTTTCCCACATGC	AGTGTCAGAGGGGCC	GCCCGGTGGGGCTAT	CTCCGTTGCTATATT	AATGGCAAGACTAAA	TGAAACCTAGGGCAC	1524
4	LC2	GGGTTTCCCACATGC	AGTGTCAGAGGGGCC	GCCCGGTGGGGCTAT	CTCCGTTGCTATATT	AATGGCAAGACTAAA	TGAAACCTAGGGCAC	1590
5	LC3	GGGTTTCCCACATGC	AGTGTCAGAGGGGCC	GCCCGGTGGGGCTAT	CTCCGTTGCTATATT	AATGGCAAGACTAAA	TGAAACCTAGGGCAC	1644
6	LC4	GGGTTTCCCACATGC	AGTGTCAGAGGGGCC	GCCCGGTGGGGCTAT	CTCCGTTGCTATATT	AATGGCAAGACTAAA	TGAAACCTAGGGCAC	1710

	1711	1725 1726	1740 1741	1755 1756	1770 1771	1785 1786	1800
1 NOC2	GGCCTCCGAAGCTGC	GTGTGGCCCCTTAGA	GGTGAGCATCAGAGC	CAGAGCAGTGAGGGG	GAGACTCACCCACCC	TCTCCCTCTCCCTTC	1469
2 NL1	GGCCTCCGAAGCTGC	GTGTGGCCCCTTAGA	GGTGAGCATCAGAGC	CAGAGCAGTGAGGGG	GAGACTCACCCACCC	TCTCCCTCTCCCTTC	1527
3 LC1	GGCCTCCGAAGCTGC	GTGTGGCCCCTTAGA	GGTGAGCATCAGAGC	CAGAGCAGTGAGGGG	GAGACTCACCCACCC	TCTCCCTCTCCCTTC	1614
4 LC2	GGCCTCCGAAGCTGC	GTGTGGCCCCTTAGA	GGTGAGCATCAGAGC	CAGAGCAGTGAGGGG	GAGACTCACCCACCC	TCTCCCTCTCCCTTC	1680
5 LC3	GGCCTCCGAAGCTGC	GTGTGGCCCCTTAGA	GGTGAGCATCAGAGC	CAGAGCAGTGAGGGG	GAGACTCACCCACCC	TCTCCCTCTCCCTTC	[illegible]
6 LC4	GGCCTCCGAAGCTGC	GTGTGGCCCCTTAGA	GGTGAGCATCAGAGC	CAGAGCAGTGAGGGG	GAGACTCACCCACCC	TCTCCCTCTCCCTTC	1800

	1801	1815 1816	1830 1831	1845 1846	1860 1861	1875 1876	1890
1 NOC2	AGCTCTGGGAGGCAG	GCGCAGTGCCCCCCT	CCCATGGGCTGGCCC	AGGACCGCGGGTGAA	ACCTGGGTCTGTTTA	GTTTCTTTGGTTTTT	1559
2 NL1	AGCTCTGGGAGGCAG	GCGCAGTGCCCCCCT	CCCATGGGCTGGCCC	AGGACCGCGGGTGAA	ACCTGGGTCTGTTTA	GTTTCTTTGGTTTTT	1617
3 LC1	AGCTCTGGGAGGCAG	GCGCAGTGCCCCCCT	CCCATGGGCTGGCCC	AGGACCGCGGGTGAA	ACCTGGGTCTGTTTA	GTTTCTTTGGTTTTT	1704
4 LC2	AGCTCTGGGAGGCAG	GCGCAGTGCCCCCCT	CCCATGGGCTGGCCC	AGGACCGCGGGTGAA	ACCTGGGTCTGTTTA	GTTTCTTTGGTTTTT	1770
5 LC3	AGCTCTGGGAGGCAG	GCGCAGTGCCCCCCT	CCCATGGGCTGGCCC	AGGACCGCGGGTGAA	ACCTGGGTCTGTTTA	GTTTCTTTGGTTTTT	[illegible]
6 LC4	AGCTCTGGGAGGCAG	GCGCAGTGCCCCCCT	CCCATGGGCTGGCCC	AGGACCGCGGGTGAA	ACCTGGGTCTGTTTA	GTTTCTTTGGTTTTT	1890

	1891	1905 1906	1920 1921	1935 1936	1950 1951	1965 1966	1980
1 NOC2	GTATGTTTGTTTGTT	TTTGACACAGTCTCG	CTTTGTTGCCCAGGC	TGGGGTGCAGTGGCA	CGATCGCGGCTCACT	GCAACCTCCACCTCC	1649
2 NL1	GTATGTTTGTTTGTT	TTTGACACAGTCTCG	CTTTGTTGCCCAGGC	TGGGGTGCAGTGGCA	CGATCGCGGCTCACT	GCAACCTCCACCTCC	1707

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3 LC1  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1794
4 LC2  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1860
5 LC3  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1914
6 LC4  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1980

          1981        1995 1996       2010 2011       2025 2026       2040 2041       2055 2056       2070
1 NOC2 CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1739
2 NL1  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1797
3 LC1  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1884
4 LC2  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1950
5 LC3  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  2004
6 LC4  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  2070

          2071        2085 2086       2100 2101       2115 2116       2130 2131       2145 2146       2160
1 NOC2 AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  1829
2 NL1  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  1887
3 LC1  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  1974
4 LC2  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  2040
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5 LC3  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  2094
6 LC4  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  2160

       2161      2175 2176      2190 2191      2205 2206      2220 2221      2235 2236      2250
1 NOC2 TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT  1919
2 NL1  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT  1977
3 LC1  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT  [illegible]4
4 LC2  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT  2130
5 LC3  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT  2184
6 LC4  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT  2250

       2251      2265 2266      2280 2281      2295 2296      2310 2311      2325 2326      2340
1 NOC2 TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC  2009
2 NL1  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC  2067
3 LC1  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC  [illegible]4
4 LC2  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC  2220
5 LC3  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC  2274
6 LC4  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC  2340
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	2341 2355	2356 2370	2371 2385	2386 2400	2401 2415	2416 2430	
1 NOC2	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTCATTCAG	AGTATGGGCAAATGC	TTCTGGAAAACCCTT	2099
2 NL1	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTCATTCAG	AGTATGGGCAAATGC	TTCTGGAAAACCCTT	2157
3 LC1	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTCATTCAG	AGTATGGGCAAATGC	TTCTGGAAAACCCTT	2244
4 LC2	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTCATTCAG	AGTATGGGCAAATGC	TTCTGGAAAACCCTT	[illegible]
5 LC3	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTCATTCAG	AGTATGGGCAAATGC	TTCTGGAAAACCCTT	2364
6 LC4	TCAGCCATGAATTCA	CTTCTCTTCAGGAGG	TTTGGCTTGGCATGA	AAATACTTCATTCAG	AGTATGGGCAAATGC	TTCTGGAAAACCCTT	2430

	2431 2445	2446 2460	2461 2475	2476 2490	2491 2505	2506 2520	
1 NOC2	CCCTGAAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCCAAACC	CCGGGTTCCTGGGTC	2189
2 NL1	CCCTGAAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCCAAACC	CCGGGTTCCTGGGTC	2247
3 LC1	CCCTGAAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCCAAACC	CCGGGTTCCTGGGTC	2334
4 LC2	CCCTGAAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCCAAACC	CCGGGTTCCTGGGTC	2400
5 LC3	CCCTGAAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCCAAACC	CCGGGTTCCTGGGTC	2454
6 LC4	CCCTGAAGAGAGAGA	ACGTGTGTGTGTGTG	TCGGTGATCACACCC	TCCCATCCTTCCTGC	CTCCTGCCCCAAACC	CCGGGTTCCTGGGTC	[illegible]

	2521 2535	2536 2550	2551 2565	2566 2580	2581 2595	2596 2610	
1 NOC2	TGGAAGGGCCTTCTC	TCCAAGCTGGGAGCT	CCTGGGCCCCCACCA	TTCACTTTTTGTCCT	TGCTGCTGGCAAACA	GTAAAGAAACTCACT	2279
2 NL1	TGGAAGGGCCTTCTC	TCCAAGCTGGGAGCT	CCTGGGCCCCCACCA	TTCACTTTTTGTCCT	TGCTGCTGGCAAACA	GTAAAGAAACTCACT	2337

3 LC1 TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT 2424

4 LC2 TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT 2490

5 LC3 TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT 2544

6 LC4 TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT 2610

2611 2625 2626 2640 2641 2655 2656

1 NOC2 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA 2327

2 NL1 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA 2385

3 LC1 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA 2472

4 LC2 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA 2538

5 LC3 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA 2592

6 LC4 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA 2658

Fig. 7

1 15 16 30 31 45 46 60 61 75 76 90

1 NOC2 MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN 90

2 NL1 MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN 90

3 LC1 MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN 90

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4 LC2 ---------- ---------- ---------- ---------- ---------- -------MRRNVMGN      8
5 LC3 MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN     90
6 LC4 ---------- ---------- ---------- ---------- ---------- -------MRRNVMGN      8

          91        105 106        120 121        135 136        150 151        165 166        180
1 NOC2 GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL    180
2 NL1  GLSQCLLCGEVLGFL GSSSVFCKDCRK--- ---------- ----------VWKR SGAWFYKGLPKYILP LKTPGRADEPQFRPW    151
3 LC1  GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL    180
4 LC2  GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL     98
5 LC3  GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL    180
6 LC4  GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL     98

          181        195 196        210 211        225 226        240 241        255 256        270
1 NOC2 PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTH PPGHLSGCQSSLASG    270
2 NL1  PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG    241
3 LC1  PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG    270
4 LC3  PTEPAEREPRSSETS RIYTWARGRVVGRKC ---------- ---------- ---------- ----------    210
5 LC4  PTEPAEREPRSSETS RIYTWARGRVVGRKC ---------- ---------- ---------- ----------    128
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6 LC2 PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG 188

271 285 286 300 301 315 316 330

1 NOC2 ETGTGSADPPGG--- -------PRPGLTRR APVKDTPGRAPAADA APAGPSSCLG 315

2 NL1 ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG 296

3 LC1 ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG 325

4 LC2 ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG 243

5 LC3 ---------- ---------- ---------- ---------- 210

6 LC4 ---------- ---------- ---------- ---------- 128